REMARKS

In accordance with the foregoing, claims 10, 12, 15 and 17 have been amended and new claim 19 has been added. Claims 10-19 are pending and under consideration.

Claims 13, 14, 16 and 17 are rejected under 35 USC §102(a) as being anticipated by Japanese Patent Publication No. 2002-248714 to Tasaka. This reference discloses a sheet which is composed of two layers essentially containing PPE resin in both layers. More specifically, paragraphs [0005]-[0007] of the reference provide:

> [0005]
> [Means for Solving the Problem]This invention solves an aforementioned problem by multilayering a denaturation PPE resin sheet (double-layer-izing). It comes to unify a bilayer of denaturation PPE resin as for the first invention, one layer of said bilayer contains an elastomer with a predetermined ratio, and a layer of another side is a multilayered sheet made of thermoplastics which does not contain an elastomer or is characterized by there being few elastomer content ratios than said one layer. It comes to unify three layers of denaturation PPE resin as for the second invention, said central layer of three layers contains an elastomer with a predetermined ratio, and a surface layer and a back layer are multilayered sheets made of thermoplastics which do not contain an elastomer or are characterized by there being few elastomer content ratios than said central layer.
> [0006]The above-mentioned elastomer is not contained, or since a layer with few the content ratio has small elasticity, it can do polishing work smoothly. Although the shock resistance of this layer falls, a layer with many elastomer content ratios which are united with this can compensate shock resistance, and shock resistance can be held on a level which is satisfactory as a whole.
> [0007]
> [Embodiment of the Invention]Whether the multilayered sheet made of thermoplastics concerning this invention contains the layer (base layer) and elastomer of denaturation PPE resin containing an elastomer, and when [even if contained,] the content ratio carries out co-extrusion molding of the layer of little denaturation PPE resin and unifies from the above, It can be considered as a bilayer or the sheet of three layers. As for the thickness ratio of the base layer occupied to the overall thickness of a sheet, although the thickness of the base layer occupied to sheet overall thickness can be set up suitably, in order to hold shock resistance good, it is desirable to make it to not less than 50%.

The composition and layer arrangement of this multilayer sheet are intended to provide a coating that is capable of attaining a beautiful surface ("good polished nature") after a shorter grinding/polishing time. The sheet is also intended to have good shock resistance. See paragraphs [0003] and [0004].

On the other hand, independent claim 17 has been amended to recite that the layer (Q) containing an elastomer does not contain polyphenylene ether (PPE). Antecedent support for this language can be found throughout the application, and the Examiner is referred particularly to the following:

Page 7, lines 20-24 is cited below to show PPE belongs only in the outermost (i.e. non-elastomeric) layer:

> As above, in the conventional technologies, there has been no multilayer mold releasing films for printed circuit board production that comprises as the outermost layer, a resin layer substantially containing PPE as a main component.

Pages 29-30, the carryover paragraph, describes:

> The mold releasing film for printed circuit board production having a multilayer structure, which is a second invention according to the present invention, is described below. The mold releasing film for printed circuit board production having a multilayer structure comprising the resin layer (P) of the invention and a layer (Q) containing an elastomer (F) has a structure wherein the **resin layer (P) described above is an outermost layer** and **the layer (Q) containing an elastomer (F) is inserted as an intermediary layer.** In principle, the structure is a three layer structure of (P)/(Q)/(P). Optionally, it is also possible to form a five layer structure by inserting further adhesive layers between layers (P) and (Q). However, from the viewpoints of film thickness and simplification, the three layer structure is preferred.

The following passages, beginning on page 30, line 9, describes elastomers for layer (Q). Nowhere is PPE mentioned as a component. From the bolded passages it follows that: (F) is responsible for the shape-following property; PPE lacks such a shape-following property, and is instead highly rigid as a monolayer film. A multilayer film, where one layer is elastomeric, is necessary to give the film a shape-following property.

> **The elastomer of component (F) of the invention includes**, for example, an olefinic copolymer such as an aromatic vinyl compound-conjugated diene compound block copolymer, **(G)** a partially hydrogenated polymer of the aromatic vinyl compound-conjugated diene compound block copolymer, **(H)** an ethylene-vinyl ester copolymer, an ethylene/propylene copolymer, an ethylene/1-butene copolymer, an ethylene/propylene/non-conjugated diene copolymer, an ethylene/propylene-g-maleic anhydride copolymer, or ABS; a polyester polyether elastomer; and a polyester polyester elastomer... **Particularly, in component (F), from the viewpoints of the shape-following property and adhesion between the multilayer films, the partially hydrogenated polymer (G) of a block copolymer of an aromatic vinyl compound and a conjugated diene compound and the ethylene-vinyl ester copolymer (H) are preferred**... [Page 30, line 9 to page 31, line 5]

> **The resin layer (P) containing the polyphenylene ether-based resin (A) in an amount of 50% by weight or more is excellent in workability owing to its high rigidity as a monolayer film, but a film having a multilayer structure is more preferable for the application of printed circuit board production, which requires the shape-following property**, less overflow of adhesive, adhesion between multilayer films, and the slipping property between films. [Page 33, lines 3-11]

In the following paragraph (page 33-34, carryover paragraph) the (Q) layer occupies at least 50% of the total film thickness, more preferably 70%. The dominant elastomeric layer is necessary to maintain the necessary shape-forming property:

> The thickness of the mold releasing film of the invention is from 3 to 100 μm in the case of use as a monolayer film. From the viewpoint of handling, it is more preferably from 10 to 100 μm, particularly preferably from 30 to 60 μm. In the case of use as a multilayer film, the total thickness is from 50 to 300 μm, and from the viewpoints of the shape-following property and workability, it is preferably from 70 to 250 μm, more preferably from 100 to 200 μm. **In the case of a multilayer structure, the ratio of the thickness of the intermediate layer (Q) is preferably 50% or more, more preferably 60% or more, further preferably 70% or more based on the total thickness. When the ratio is less than 50%, a sufficient shape-following property cannot be exhibited.**

Pages 35-36, carry-over paragraph, explicitly describes that the elastomer (F) is the layer (Q). Also, the extrusion process works best when the viscosity of layer (P) is largely different from that of layer (Q).

> On the other hand, the mold releasing film for printed circuit board production according to the invention can be also produced by T-die extrusion molding. In this case, the film may be used without orientation or may be obtained with uniaxial orientation or biaxial orientation. In the case that increased strength and rigidity of the sheet is desired, orientation is effective. As the method of the **multilayer lamination of the layer (P)-providing resin with the layer (Q)-providing resin component**, methods of dry lamination and co-extrusion lamination can be cited. In the case of dry lamination, a monolayer film of layer (P) is once produced, **the elastomer (F) which is the layer (Q)-providing resin** is extruded from a T-die while feeding the monolayer from the upper and lower parts in the vicinity of the T-die, and then the resulting sheet is rolled to effect lamination. **The method is particularly effective when the viscosity of layer (P) is largely different from that of layer (Q).** On the other hand, in the case of co-extrusion lamination, the lamination of the layer (P)-providing resin component and the layer (Q)-providing resin component can be effected using a multilayer die with an extruder. A multilayer film can be produced in one step and hence the method is economical.

Examples 11-22 on pages 63-67 show (Q) layers where PPE is not included and (P) layers where PPE is included. Example 11 is reproduced herein as a representative sample of this proposition:

> Using P-i as layer (P) and **using the partially hydrogenated polymer of the block copolymer of the aromatic vinyl compound and the conjugated diene compound (SEBS-i) as layer (Q)**, a multilayer film was obtained by the T-die extrusion molding shown in the above (2). Using this film as a mold releasing film, the film was evaluated according to the above methods. The results are shown in Table 3.

Table 3, page 69 summarizes examples 11-22:

			Ex. 11	Ex. 12	Ex. 13	Ex. 14	Ex. 15	Ex. 16	Ex. 17	Ex. 18	Ex. 19	Ex. 20
Film	**P layer**		**P-i**	**P-ii**	**P-iii**	**P-iv**	**P-v**	**P-i**	**P-vi**	**P-vii**	**P-i**	**P-iv**
	Q layer		**SEBS-i**	**SEBS-i**	**SEBS-i**	**SEBS-i**	**SEBS-i**	**SEBS-ii**	**SEBS-ii**	**SEBS-iii**	**EVA-i**	**EVA-i**
	Layer construction		P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P	P/Q/P
	Molding method		T-die	T-die	Inflation	T-die	T-die	T-die	T-die	T-die	T-die	T-die
Contact angle on outermost surface layer			85	86	85	89	94	85	82	91	85	89
Evaluation	Mold releasing property	vs FPC	A	A	A	A	A	A	A	A	A	A
		vs adhesive / copper foil	A	A	A	A	A	A	A	A	A	A
	Following property		A	A	A	A	A	A	A	A	A	A
	Overflow of adhesive		A	A	A	A	A	A	A	A	A	A
	Adhesion between P-Q layers		A	A	A	A	A	A	A	A	A	A
	Slipping property		A	A	A	A	A	A	A	A	A	A

Although they have been deleted from Table 3 (to fit the table to the page in this Response), it is important to note comparative examples 4-6 on pages 67-68 were included in the specification to show how the performance of the film suffers when PPE is **left out of the outermost layer**.

On the other hand, Tasaka clearly requires PPE in all layers of its sheet. Perhaps this is because the goals in Tasaka are very different. That is, Tasaka discloses a sheet, which requires surface grinding, and Tasaka does not disclose anything about conformability.

Because Tasaka does not disclose or suggest a film having a multilayer structure comprising a resin layer containing PPE and a layer containing an elastomer, but not containing PPE, it is submitted that claim 17, and the claims dependent thereon patentably distinguish over Tasaka.

New dependent claim 19 has been added. Claim 19 recites that the mold releasing film has a thickness of from 50 to 300 microns. Antecedent support for this language can be found, for example, in the paragraph bridging pages 33 and 34 of the application.

Tasaka disclosed a sheet having a very different thickness. For example, paragraph [0009] of Tasaka describes:

> [0009]The denaturation PPE resin which did 20 mass % content of example 2SEBS was made into the central layer, the surface layer and back layer of

denaturation PPE resin which do 10 mass % content of SEBS were united with this by co-extrusion molding, and a three-layer sheet was manufactured. Lamination thickness is surface-layer / central layer / back layer =0.2mm/2.6 mm/0.2 mm, and was made into the total thickness of 3 mm.

The 3 mm sheet disclosed in Tasaka is an order of magnitude thicker than the claimed film thickness. Because of the different purpose intended by Tasaka, there is no suggestion in the reference for using a much thinner sheet. Accordingly, claim 19 distinguishes over Tasaka because of the claimed thickness and because of the reasons discussed above with regard to claim 17.

With regard to claims 10-12 and 15, the Examiner indicates these claims contain allowable subject matter. Claims 10-12 and 15 have been written in independent form. In describing the allowability of claims 10-12 and 15, the Examiner refers to a surface containing polyphenylene oxide (PPO). However, claims 10-12 and 15 do not specifically require polyphenylene oxide. It is believed the Examiner's reference to "PPO" is a simple typographical error.

Claim 18 has been allowed.

There being no further outstanding objections or rejections, it submitted the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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